

REMARKS

Claims 1, 3-9, 11-13 and 15 are now pending in the application. Applicant respectfully acknowledges the Examiner's indication of allowable Claims 12, 13 and 15. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 103

Claims 1, 3-5 and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,738,181 (Nakamoto) in view of Applicant's admitted prior art. This rejection is respectfully traversed.

Nakamoto is directed generally to a polarization crossing method for generating wavelength-division multiplexing optical signals. First, the Examiner asserts that Nakamoto discloses performing impairment compensation of each of the data signals (referring to 142-1 to 141-15). However, since Claim 1 of the present application defines the signal impairment compensation operation to include dynamic gain flattening, optical transient suppression and dispersion compensation, amplification is not a form of impairment compensation as recited in Applicant's claimed invention.

Moreover, Nakamoto fails to teach or suggest performing signal impairment compensation on each of the optical signals within a given layer as recited in Applicant's claimed invention. With reference to col. 19, lines 63-67 of Nakamoto, dispersion compensation values for compensating data signals 141-1 and 141-2 are computed using the data signal 141-3 as the reference. In other words, the dispersion

compensation technique proposed by Nakamoto requires that no dispersion compensation be performed on data signal 141-3. Thus, Nakamoto *teaches away* from performing dispersion compensation on each of the data signals at this layer. Likewise, no dispersion compensation is applied to the sub-band signals being output from multiplexer 144-2 and 144-4. Therefore, Applicant contends that given a more thorough understanding of the compensation technique proposed by Nakamoto, one of ordinary skill would not have been motivated to provide dispersion compensation to each signal of a given optical layer.

The Examiner also concedes that Nakamoto does not disclose performing dynamic gain flattening or optical transient suppression on each of the optical signals at each of the optical layers within the network as recited in Applicant's claimed invention. The Examiner relies in part upon Applicant's characterization of the prior art. Although the Applicant acknowledges that techniques for applying dynamic gain flattening and optical transient suppression are known, there is no characterization of the prior art that indicates whether these techniques are applied to all of the optical signals at a given layer nor as to which optical layers these techniques might be applied. Absent this teaching, it is unclear how this combination of references teaches performing dynamic gain flattening or optical transient suppression on each of the optical signals at each of the optical layers as recited in Applicant's claimed invention. In this instance, the Examiner appears to be relying upon hindsight reasoning given the benefit of present application.

In contrast, Applicant's invention is directed to an architectural arrangement that enables optical switching at different optical layers within an optical transport network.

To enable switching, signal impairment compensation is performed at each layer of the network. For instance, dispersion compensation is applied at each layer to equalize signal impairment levels. Gain flattening and optical transient suppression are also applied at each layer. In addition, these techniques must be applied to each optical signal within a given layer to achieve the signal power needed to traverse long distances. Since the currently rejected claims recite this aspect of the present invention, it is respectfully submitted that Applicant's invention defines patentable subject matter over Nakamoto. Accordingly, applicants respectfully request the Examiner to reconsider and withdraw this rejection.


CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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